

## **New Hampshire; Boston-Lawrence-Worcester Southern New Hampshire Area, Ozone Attainment Demonstration**

### **Federal Register Dates:**

October 21, 2002	Notice of Proposed Rulemaking, 67 FR 64582
December 6, 2002	Final Rulemaking, 67 FR 72574

**EPA Approval Date:** The final rule approving the Boston-Lawrence-Worcester Southern New Hampshire ozone attainment demonstration plan, was effective on January 6, 2003.

**State Submittal:** On June 30, 1998, New Hampshire Department of Environmental Services submitted New Hampshire's one-hour ozone attainment demonstration for the New Hampshire portion of the Boston-Lawrence-Worcester, Eastern Massachusetts and Southern New Hampshire serious ozone nonattainment area. The attainment demonstration SIP includes a modeling analysis using the CALGRID model which demonstrates attainment using the weight-of-evidence approach.

### **Background/Prior Action:**

The New Hampshire portion of the Boston-Lawrence-Worcester Eastern Massachusetts and Southern New Hampshire serious ozone area consists of a portion of Hillsborough County (*Pelham Town, Amherst Town, Brookline Town, Hollis Town, Hudson Town, Litchfield Town, Merrimack Town, Milford Town, Mont Vernon Town, Nashua City, Wilton Town*); and a portion of Rockingham County (*Atkinson Town, Brentwood Town, Danville Town, Derry Town, E. Kingston Town, Hampstead Town, Hampton Falls Town, Kensington Town, Kingston Town, Londonderry Town, Newton Town, Plaistow Town, Salem Town, Sandown Town, Seabrook Town, South Hampton Town, Windham Town*), New Hampshire.

On June 9, 1999, EPA determined that the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area had attained the 1-hour ozone standard. This determination was based on data collected from 1996-1998. Consistent with then current EPA policy, since the Boston-Lawrence-Worcester, MA-NH area had attained the standard by November 15, 1999, its statutory attainment date, EPA took no action on the New Hampshire attainment demonstration SIP submittal for the Boston-Lawrence-Worcester, MA-NH area. The Boston-Lawrence-Worcester, MA-NH nonattainment area continued to have air quality meeting the one-hour ozone standard through the summer of 2000.

Based on data collected in 1999-2001, the Boston-Lawrence-Worcester, MA-NH area violating the one-hour ozone standard. Thus, this nonattainment area once again was required to have an approved attainment demonstration and 9% ROP plan. EPA approved the state's 9% ROP plan for the area via a direct final rulemaking on April 16, 2002 (67 FR 18547).

The statutory attainment date for the Boston-Lawrence-Worcester, MA-NH nonattainment area is November 15, 1999. The area attained the standard as of its attainment date, but then subsequently experienced a violation. The CAA does not expressly address the appropriate attainment date for an area that attains the standard by its attainment date but then subsequently violates the standard nor does it address the planning requirements that apply to such an area. (CAA sections 179(c) and (d) and 181(b)(2) establish requirements only for those areas that EPA determines do not attain the standard by their attainment date.) With respect to

the attainment date, both subparts 1 and 2 of Part D of the Act specify outside dates for attainment and provide that attainment must be “as expeditiously as practicable” within those outside dates. CAA sections 172(a)(2) and 181(a)(1). With respect to control obligations, EPA generally attempts first to work with the State to submit a revised SIP and, where necessary, would issue a SIP Call pursuant to section 110(k)(5) if additional controls were needed. On September 6, 2002, Massachusetts submitted a supplement to its attainment demonstration which indicated that the demonstration provides for attainment, by November 15, 2007, which is as expeditiously as practicable, within the multi-state area. EPA reviewed New Hampshire's 1998 attainment demonstration SIP submission in conjunction with the more recent attainment demonstration SIP submitted by Massachusetts.

### **Summary:**

EPA has approved the ground-level one-hour ozone attainment demonstration state implementation plan (SIP) for the New Hampshire portion of the Boston-Lawrence-Worcester, Eastern Massachusetts and Southern New Hampshire serious ozone nonattainment area. EPA also established an attainment date of November 15, 2007 for the entire multi-state Boston-Lawrence-Worcester, Eastern Massachusetts and Southern New Hampshire serious ozone nonattainment area. EPA also approved the attainment-level volatile organic compound (VOC) and nitrogen oxide (NO<sub>x</sub>) motor vehicle emissions budgets for the New Hampshire portion of the Boston-Lawrence-Worcester, MA-NH serious ozone nonattainment area for use in transportation conformity.

The paramount element in the New Hampshire weight of evidence analysis is the actual air quality monitoring data. The air quality monitoring data show that the area attained the one-hour national ambient air quality standard (NAAQS) in 1998, based on 1996-1998 ozone data. The area remained in attainment until the summer of 2001. In the summer of 2001, the violations of the standard occurred to the south of New Hampshire. Both trajectory analyses and zero-out model runs show that the source regions for these violations is not New Hampshire, and there is nothing New Hampshire can do to eliminate or reduce these violations. Another element in a weight of evidence analysis is use of the model predicted change in ozone to estimate a future air quality design value. An analysis of the modeled ozone data, from the CALGRID model used in the New Hampshire attainment demonstration, in conjunction with monitored air quality data shows that, with the planned emission reductions in the two precursor emissions (VOC and NO<sub>x</sub>), ground-level ozone concentrations will be below the ambient standard by the 2007 attainment date.

### **Transportation Conformity Budgets:**

On June 30, 1998, New Hampshire submitted an ozone attainment demonstration SIP revision to EPA which established 2003 motor vehicle emission budgets of 10.72 tons per summer day of volatile organic compounds (VOC) and 21.37 tons per summer day of nitrogen oxides (NO<sub>x</sub>) for the New Hampshire portion of the Boston-Lawrence-Worcester, Eastern Massachusetts and Southern New Hampshire area. By letter dated August 19, 1998, EPA informed New Hampshire that the motor vehicle budgets contained within the State's ozone attainment demonstration were adequate for conformity purposes. Because EPA has established an attainment date of November 15, 2007 for the entire multi-state nonattainment area, New Hampshire will be required to use 2007 as a milestone year in future transportation conformity

determinations.

The 2003 motor vehicle emission budgets approved into the SIP are lower than the current level of motor vehicle emissions estimated in the New Hampshire portion of the Boston-Lawrence-Worcester, MA-NH nonattainment area. While the approved 2003 motor vehicle emission budgets are not as stringent as the projected 2007 motor vehicle emissions for the area, the motor vehicle emission budgets must only demonstrate that its emission level is sufficient to attain and maintain the one-hour NAAQS for ozone. For example, the projected 2007 motor vehicle emission levels can have an additional quantity of “safety margin” emissions to accommodate future growth added to them to create the attainment-level motor vehicle emission budgets, provided that the area continues to demonstrate attainment. The important criteria is that the motor vehicle emission level established in the attainment demonstration, when added to the stationary, area and other mobile sources are consistent with attainment of the one-hour NAAQS for ozone. New Hampshire's 2003 motor vehicle emission budgets of 10.72 tons per summer day of VOC and 21.37 tons per summer day of NO<sub>x</sub> are consistent with a level required to attain the one-hour ozone NAAQS, and represent acceptable attainment-level motor vehicle emission budgets with a safety margin included.

**Identification by rule name and/or number/citation of the regulations that have been approved by EPA as part of the SIP Plan:**

No new state regulations were approved into the New Hampshire State Implementation Plan as part of the Boston-Lawrence-Worcester Eastern Massachusetts Southern New Hampshire ozone attainment demonstration plan.

*Control Measures in the One-Hour Ozone Attainment Plan for the New Hampshire portion of the Boston-Lawrence-Worcester, MA-NH Serious Ozone Nonattainment Area*

- On-board Refueling Vapor Recovery;
- Federal Motor Vehicle Control program;
- Heavy Duty Diesel Engines (On-road);
- Federal Non-road Heavy Duty diesel engines;
- Federal Non-road Gasoline Engines;
- Federal Marine Engines;
- AIM Surface Coatings;
- Automotive Refinishing;
- Consumer & commercial products;
- Inspection & Maintenance, (SIP approved);
- NO<sub>x</sub> RACT, (SIP approved);
- VOC RACT, (SIP approved);
- Stage II Vapor Recovery, (SIP approved);
- Reformulated Gasoline, (SIP approved);
- National Low Emission Vehicle, (SIP approved);
- Clean Fuel Fleets, (SIP approved);
- New Source Review, (SIP approved);
- Base Year Emissions Inventory, (SIP approved);
- 15% VOC Reduction Plan, (SIP approved);
- 9% rate of progress plan, (SIP approved);

- Emissions Statements, (SIP approved);
- Enhanced Monitoring (PAMS), (SIP approved);
- OTC NO<sub>x</sub> MOU Phase II and III, (SIP approved); and
- Stage II Vapor Recovery or comparable measures section OTR requirement.

**Other Commitments:**

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